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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,219	06/06/2001	Masayuki Sakata	Q64862	5671

7590 10/04/2004
SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3202

EXAMINER

HABTE, ZEWDU

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,219

Applicant(s)

SAKATA, MASAYUKI

Examiner

Zewdu Habte

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,5,6,7,11,12 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicant Admitted Prior Art)(hereafter AAPA) in view of Byers (US 6693901B1).

As to claim 1, AAPA discloses the invention as claimed, a method of connecting a plurality of hubs (Fig. 1@ 3-6) and a plurality of terminals (Fig. 1@ 7-10) with lines (Fig. 1@111-118), each of the terminals comprising a plurality of ports each of which is connected to one of the lines (Fig. 1, page 1, paragraph 4, line 2, connections between hubs and terminals comprising a plurality of ports each of which is connected to hubs), comprising the steps of: connecting one of the ports and one of the hubs with one of the line at each of the terminals (Fig. 1@111, terminal 7 connects hub 11 with line 111); connecting another port of the same terminal with another port of the hubs at each of the terminals (Fig. 1@112, terminal 7, the same terminal connects hub 13 with line 112); activating one of the lines connected with each of the terminals (page 1,

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paragraph 2, lines 2-4, says, according to IEEE 802.1d, a line that is currently establishing a connection is switched to another line that is reserved); AAPA does not disclose circularly connecting the hubs with each other, but Byers discloses circularly connecting the hubs with each other (Fig. 1 @ Hub 110, 106a, 106d, 106f, 106c). It would have been obvious to combine AAPA and Byers for the purpose of circularly connecting the hubs with each other. The motivation is to establish an alternative route between the hubs. Also, Byers teaches inactivating one of lines between adjoining two hubs (col. 4 lines 5-6, control circuit 112 provides some control over the communications implemented by the hub. The control circuit 112 controls routing between hubs. If the routing between adjoining hubs directed through lines 106a, 106d, 106f instead of line 106c, it is because there is no 106c line assignment in the routing table, which is to say line 106c is inactivated). It would have been obvious to combine AAPA and Byers for the purpose of inactivating one of the connections between the hubs. The motivation is to control the route used by the joining hubs.

Referring to claim 5, AAPA discloses the method claimed in claim 1, further comprising the steps of: partitioning the hubs into a plurality of groups each of which includes at least one of the hubs (Fig. 1, hubs 3 and 4 make a group, and hubs 5 and 6 make another group; these groups are connected by line 102); although AAPA does not clearly show how these groups of hubs are powered, it is known in the art that one could put a group of hubs in a rack with a power panel, another group of hubs in another rack with another power feeder, and connect these two groups of hubs in a daisy-chain. It would have been obvious to combine this well known art with AAPA for

the purpose of partitioning the hubs and supplying power to these groups from different power source. The motivation is to minimize interruption in the event of a power failure.

Referring to claim 6, AAPA discloses the method claimed in claim 5, wherein the hub which is connected at the former connecting step and the hub which is connected at the later connecting step belong to a different one of the groups from each other (Fig. 1, hubs 3 and 4 make a group, and hubs 5 and 6 make another group; these groups are connected by line 102 and these hubs, hub 4 and hub 5, belong to different groups).

As to claim 7, AAPA discloses a network comprising a plurality of hubs (Fig. 1 @ 3-6) and a plurality of terminals (Fig. 1@7-10), wherein: each of the terminals comprises a plurality of ports each of which is connected to different one of the hubs via a line (Fig. 1, page 1, paragraph 4, line 2, connections between hubs and terminals comprising a plurality of ports, each of which is connect to hubs); one of the lines connected to one of the terminals is active and the rest of the lines connected to the same terminal are inactive (page 1, paragraph 2, lines 2-4, says according to IEEE 802.1d, a line that is currently establishing a connection is switched to another line that is reserved). AAPA does not disclose that the hubs are circularly connected with each other, but Byers discloses circularly connecting the hubs with each other (Fig. 1 @ Hub 110, 106a, 106d, 106f, 106c). Also, Byers teaches one of lines between adjoining two of the hubs is inactive. (col. 4 lines 5-6, control circuit 112 provides some control over the communications implemented by hub). It would have been obvious to combine AAPA and Byers for the purpose of circularly connecting the hubs and inactivating one

of the connections between the hubs. The motivation is to control the route used by the joining hubs, and to establish an alternative route between hubs.

Referring to claim 11, AAPA discloses, wherein: the hubs are partitioned into a plurality of groups each of which includes at least one of the hubs (Fig. 1, hubs 3 and 4 make a group, and hubs 5 and 6 make another group; these groups are connected by a line 102) and although AAPA does not clearly show how these groups of hubs are powered, it is known in the art that one could put a group of hubs in a rack with a power panel, another group of hubs in another rack with another power feeder, and connect these two groups of hubs in a daisy-chain. It would have been obvious to combine this well known art with AAPA for the purpose of partitioning the hubs and supplying power to these groups from different power source. The motivation is to minimize interruption in the event of a power failure.

Referring to claim 12, AAPA discloses, wherein at each of the terminals, at least one of the ports is connected to the hub that is partitioned into different group from the rest of the ports (Fig. 1, hubs 3 and 4 make a group, and hubs 5 and 6 make another group; these groups are connected by a line 102).

Claims 2,3,8,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and Byers as applied to claim 1 above, and further in view of Huang (US 6308282B1).

Referring to claim 2, Huang discloses the steps of detecting a fault on the port connected with the line that was activated at the activating step (col. 4, lines 43-45, the network interface cards serve in the failure detection protocol to detect network failure);

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inactivating the port and activating another one of the ports of the same terminal (col. 4 lines 45-48, in the event a network failure is detected, the two network interface cards close the ring to serve the traffic). It would have been obvious to combine AAPA and Byers with Huang for the purpose of detecting a fault on the port, inactivating and activating another one of the ports in the event of a fault on a port. The motivation is to keep uninterrupted service between the two end points.

Referring to claim 3, Huang discloses the step of informing the other terminals that terminal one of whose ports is detected the fault inactivates the port connected with the line that was activated at the activating step and activates another one of the ports of the same terminal (col. 4, lines 53-55, the address resolution protocol broadcasts the information to other nodes on the active and standby channels).

Referring to claim 8, Huang discloses each of the terminals comprising: means for detecting a fault on the port connected to the active line (col. 4, lines 43-45, the network interface cards serve in the failure detection protocol). Means for inactivating the active line; and means for activating one of the inactive lines (col. 4 line 45-48, in the event a network failure is detected, the two network interface cards close the ring to serve the traffic). It would have been obvious to combine AAPA and Byers with Huang for the purpose of having a means to inactivate and activate another one of the ports, in the event of a fault on a network port. The motivation is to keep uninterrupted service between the two end points.

Referring to claim 9, Huang discloses means for informing the other terminals of inactivating the active line and activating one of the inactive lines (col. 4, line 54, when a

fault is detected on a port that is connected to an active line, the address resolution protocol broadcasts the information, the address mapping table, to other nodes upon startup. This way the other nodes are routed through inactive lines according to the mapping table, it is also saying that the address for the active line with a fault, not included in the mapping table as an active line, considered inactive or deactivated).

Claims 4, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and Byers as applied to claim 1 above, and further in view of Byham (US 6594231).

Referring to claim 4, Byham discloses stackable hubs (Fig. 4). It would have been obvious to combine AAPA and Byers with Byham for the purpose of having stackable hubs. The motivation is to have a close path between hubs, so it is easy to control connections between terminals.

Referring to claim 10, Byham discloses stackable hubs, and the top hub is connected with the bottom hub, to circularly connect the hubs with each other (Fig. 4). It would have been obvious to combine AAPA and Byers with Byham for the purpose of having stackable hubs. The motivation is to easily control the connections and to have a close path between hubs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zewdu Habte whose telephone number is 571-272-3115. The examiner can normally be reached between 8:30-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the

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organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zewdu Habte
9/28/2004



KENNETH VANDERPUYE
PRIMARY EXAMINER